



# *Doing Business With DARPA*

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The Incremental Approach:

*"Freedom is very precious...so precious that it must be rationed."*

V.I. Lenin

The DARPA Approach:

*"It's a revolution, somebody's bound to be offended."*

John Adams, 1776

## Why Not Do Business Like Everybody Else?



- Evolution of the Defense Industry
- History of DARPA Business Practices
- Special Legal Authorities
- Key Issues
  - Dual-Use
  - Partnering
  - Others
- Examples



- World War II Technological Surprise
  - Jet Aircraft
  - Cruise Missile
  - Ballistic Missile
  - Guided Anti-ship Missile
  
- Cold War Imperatives
  - U.S.S.R. Possessed Nuclear Weapons
  - U.S.S.R. and China - Conventional Numerical Superiority

# Evolution of the Defense Industry



- Distinct Defense Industry was originally shaped by technology needs
- Distinct Defense Industry exists today primarily because of Government imposed business practices
- Defense Industry is consolidating, becoming bulkier and more in-bred

## 1990's -- Post-Cold War Era



- Commercial technology is more advanced than military technology
- Innovative civilian products are introduced rapidly
- Price of computing power declines rapidly
- Commercial firms with large R&D budgets don't do business with DoD
- "Partnering" is becoming more common
- Information Technology is the cornerstone of the "Revolution in Military Affairs"

# History of DARPA Business Practices



1958 ARPA created

- \$500M budget (= \$2.5 B in FY96)
- begins operations immediately
- ARPA Order/Agent System
- Mission Priority - space

1960 Missile defense replaces space as ARPA's big program

- ARPA diversifies

1963 ARPA begins pushing computer technology on a broad front rather than with a narrow military focus (forerunner of "dual-use" approach)

1970 Mansfield Amendment (military relevance)

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# History of DARPA Business Practices

(Continued)



1975 HAVE BLUE (Stealth) and other “black” programs contrast normal and streamlined acquisition

1982 SBIR Program

1984 CICA -- Broad Agency Announcements

1986 Packard Commission (prototyping)

1987 DARPA Organizes in response to Packard

- Prototype Projects Office
- Contracts Management Office
- General Counsel

# History of DARPA Business Practices

(Continued)



- 1990 First DARPA “other transaction” non-procurement agreement
- 1991-2 “Consortia” funding added to DARPA budget
- 1993 Technology Reinvestment Project
- 1994 Non-procurement prototype projects (TIER II+/TIER III-)
- 1996 Arsenal Ship
- 1997 Commercial Operations and Support Savings Initiative

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# Special DARPA Legal Authority



10 U.S.C. 2371 (enacted 1989, amended several times)

- authorizes “other transactions” for research and development
- equal cost sharing if “practicable”
- procurement contract, grant not feasible/appropriate

Sec. 845, Public Law 103-160 (Prototypes)

- authorizes “other transactions” for military prototypes
- cost sharing not required
- even if procurement contract is feasible/appropriate

# DARPA Funding Mechanisms



## Procurement Contract

- Solicitation - RFP/BAA
- Type - CPFF
- Recipient - Any organization

## Grant

- Solicitation - BAA
- Type - Typically fixed sum
- Recipient - Typically university/non-profit

## “Other Transaction”

- Solicitation - BAA/RA
- Type - Milestone payments
- Recipient - Typically consortium or commercial firm



## Sec 845 Prototype Agreement

Solicitation - Program Solicitation

Type - CPFF, CPIF, milestone payments

Recipient - Typically consortium or defense contractor

# Dual-Use Implications of Funding Mechanisms



## VITAL ELEMENTS IN TECHNOLOGY IMPLEMENTATION

- Useful/Commercializable Technology
  - Capital
  - Business/Technology “Champions”
  - Market Demand
- These elements combined in the Technology Developer optimize the opportunity for Technology Implementation
  - Dual-Use Strategy

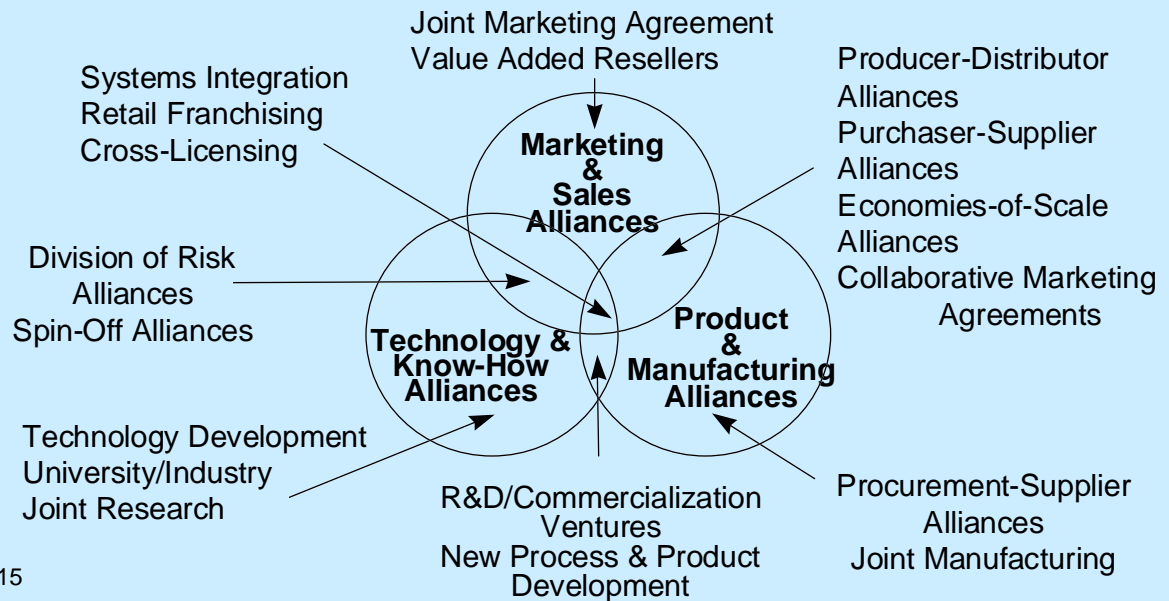
# Impediments to Commercial Utilization



<u>Government Support Mechanism</u>	<u>Primary Commercialization Mechanism</u>	<u>Impediments</u>
Procurement Contract (Industry)	IPR provisions in contract	Impediments caused by market separation
Grant (University)	IPR provisions - license to industry - new start-up company	Forced Tech Transfer
In-house (Lab)	License to industry CRADA	Forced Tech Transfer
Consortia/Partnership (10 U.S.C. 2371)	Goal of relationship is mission support plus commercialization	Potential to address all elements vital to commercialization
Flexible Agreement (10 U.S.C. 2371)	Goal of relationship is mission support plus commercialization	Potential to address all elements vital to commercialization

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# The Kind of Alliance You Want to Form Depends on Your Strategic Directions



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## Characteristics of a Winning Consortium



1. Critical Driving Forces
2. Real Business Opportunity
3. Strategic Synergy
4. Excellent Chemistry
5. Win/Win
6. Concrete Results
7. Sharp Focus
8. Commitment & Support

## **Key areas where flexibility has been exercised in “other transactions”**

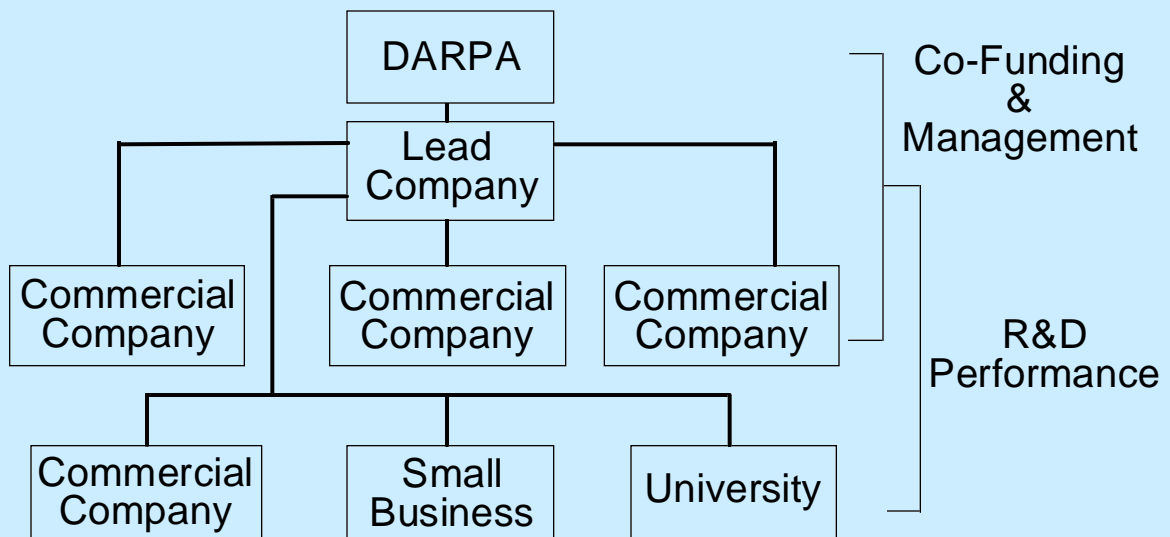
- Relationships - “Partnership” vice primes and subs
- Intellectual Property - Minimal government rights may be appropriate
- Payments - Milestones versus cost-reimbursement
- Accounting and Audits - No DCAA, Commercial Standards
- Regulations - Virtually none apply, freedom of contract



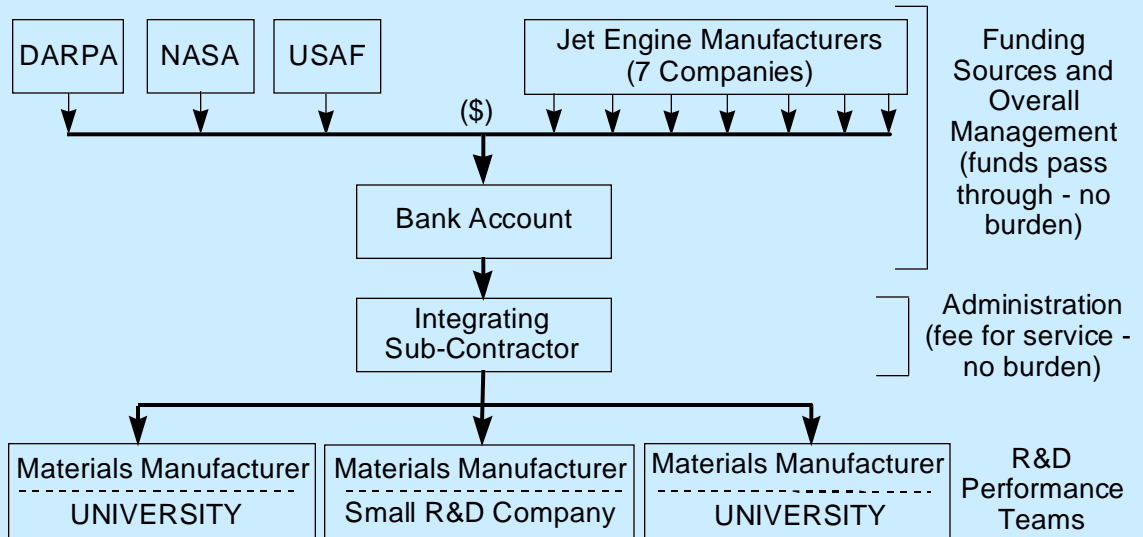
## Examples of “Other Transactions”

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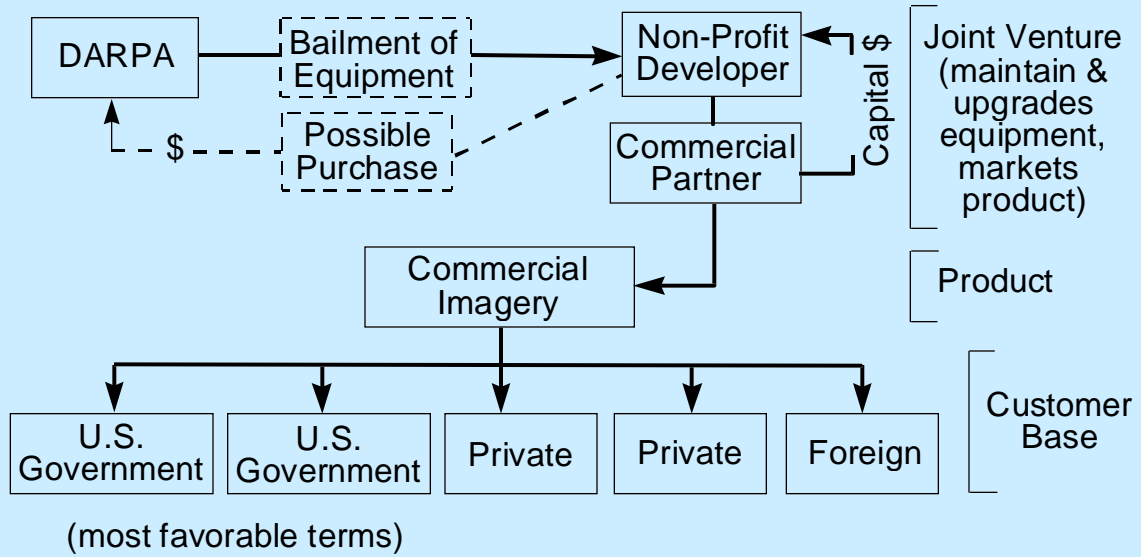
# R&D Performance Agreement



# Joint Funding Agreement



# IFSARE Commercialization



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## Prototype Projects (Sec. 845)



- Globalhawk and Darkstar
- Arsenal Ship
- COSSI
- Others



- What is a Prototype?
- Transition to production
- “Contract” Type
- Cost Sharing? (IR&D)
- Old dog, new tricks?

## The Challenge



- DARPA is interested in affordable world class technology
- Innovative relationships and business practices may be key to affordability
- DARPA doesn't have all the answers
- We need your good ideas!